

FIGURE 1A

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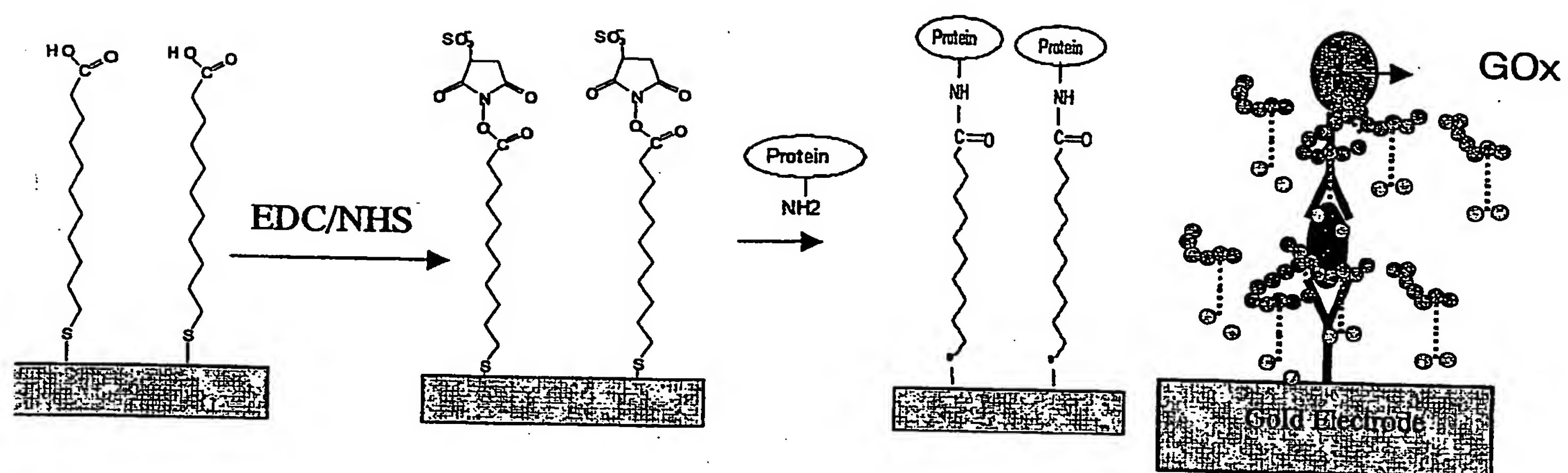
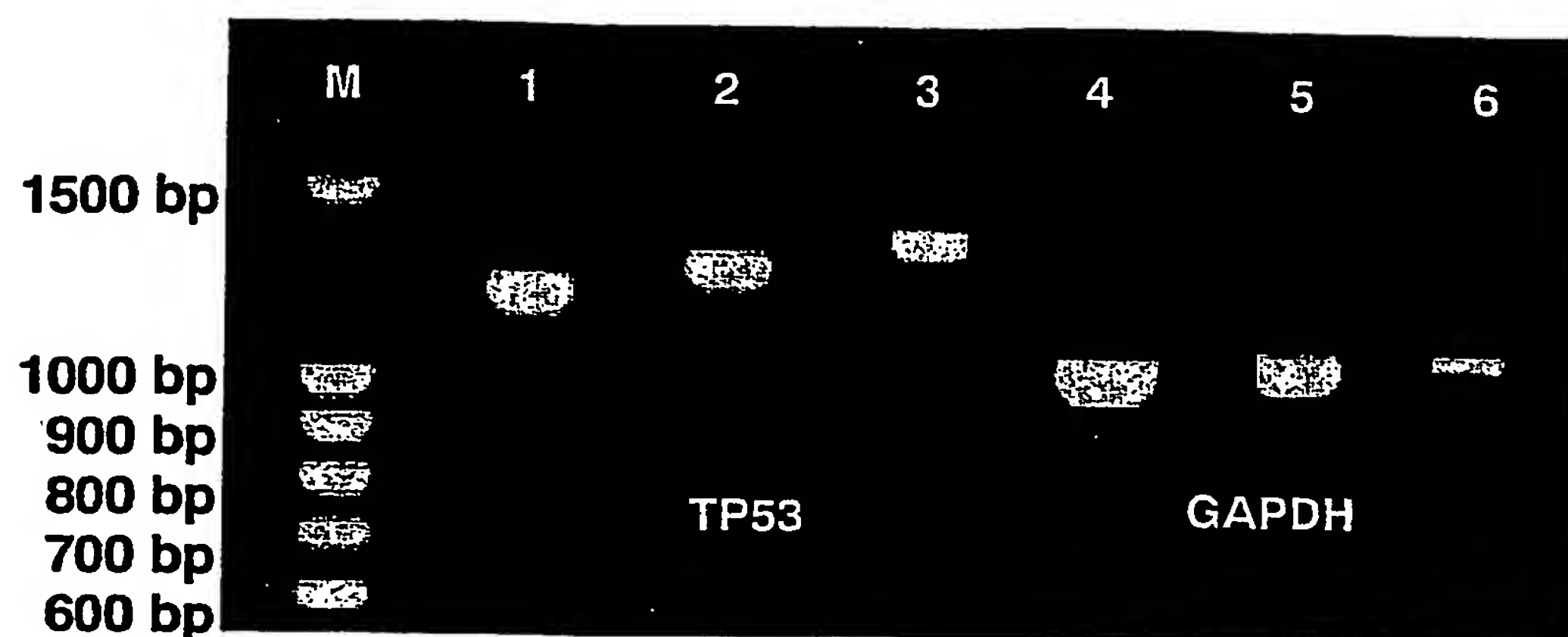
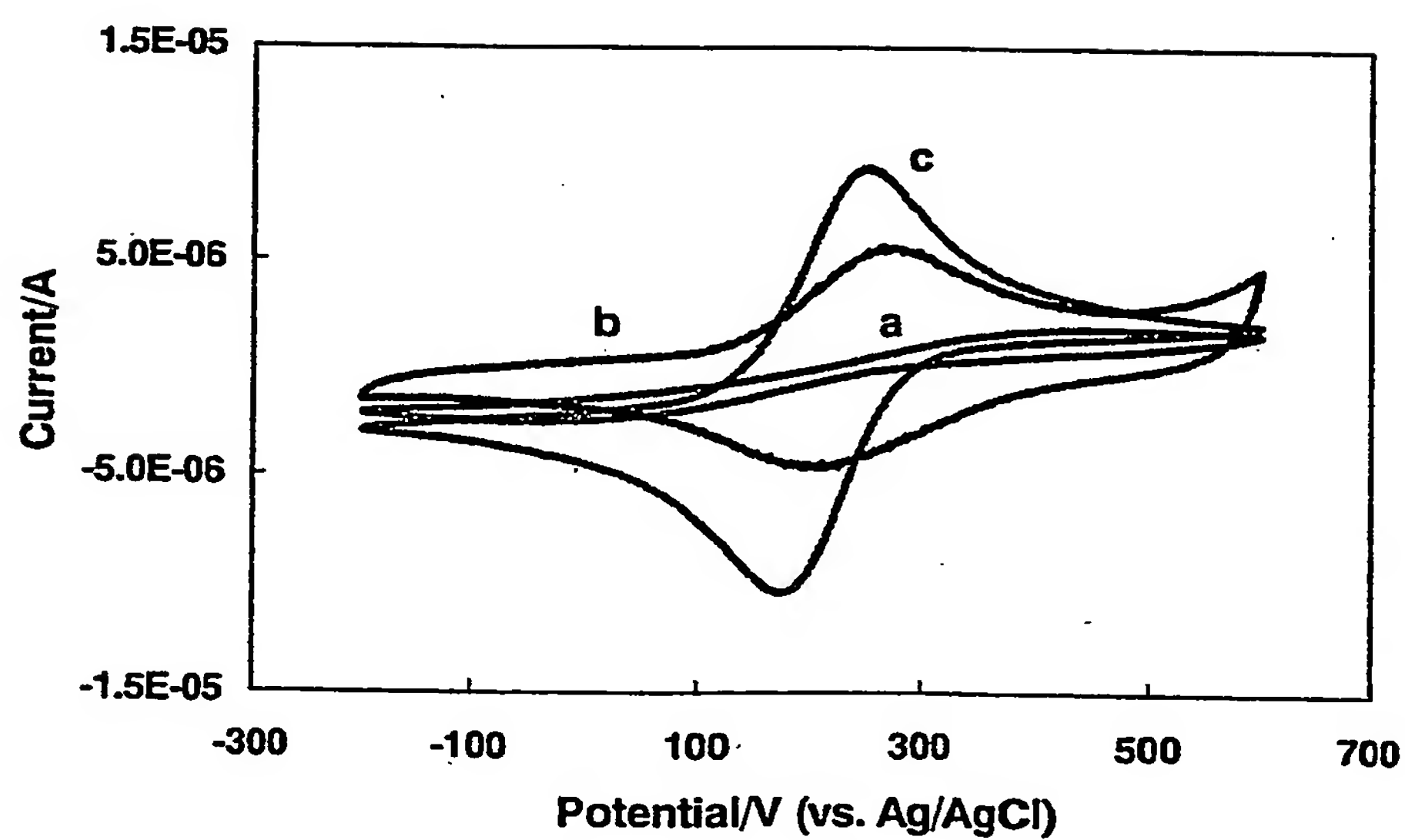


FIGURE 1B

**FIGURE 2****FIGURE 3**

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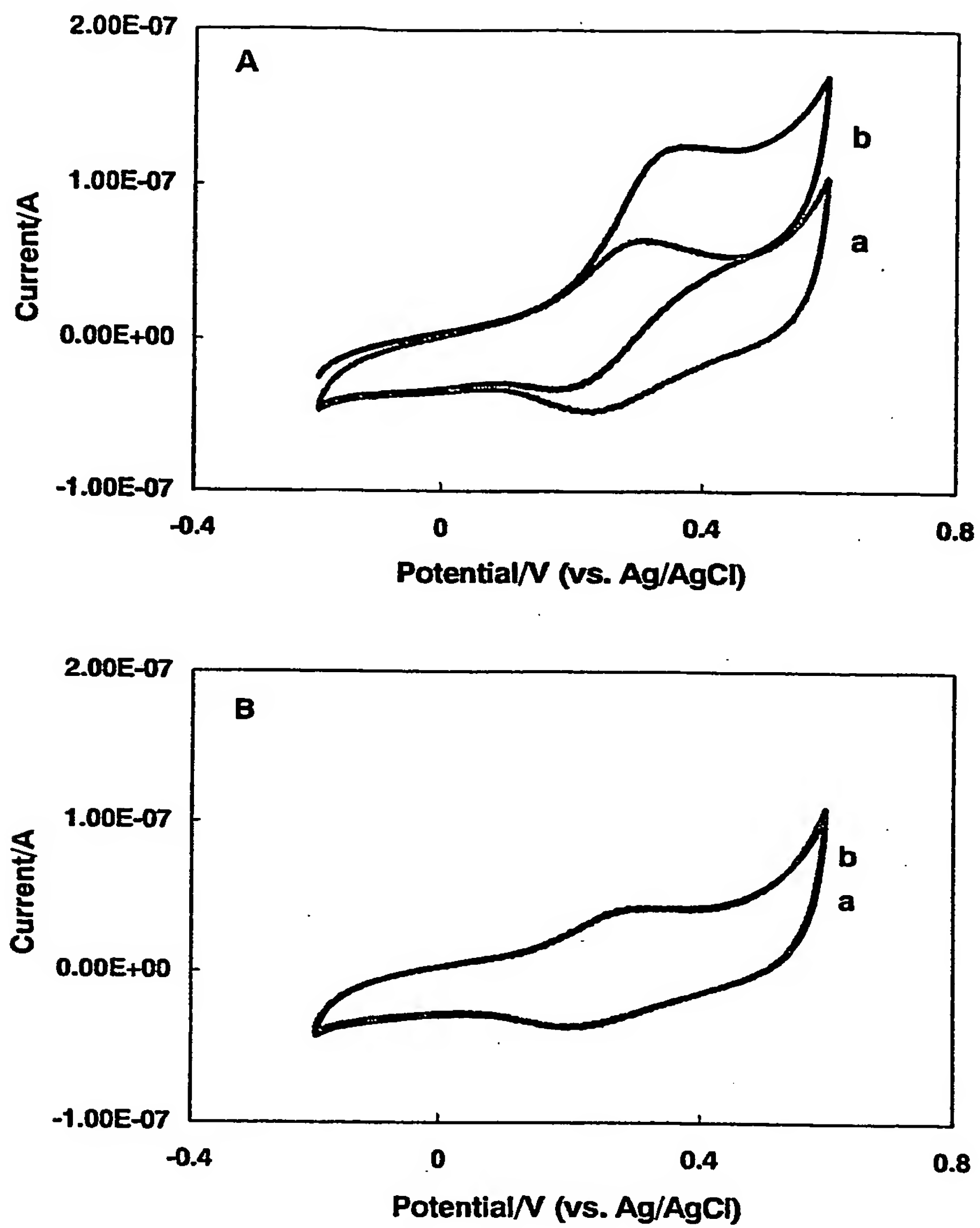
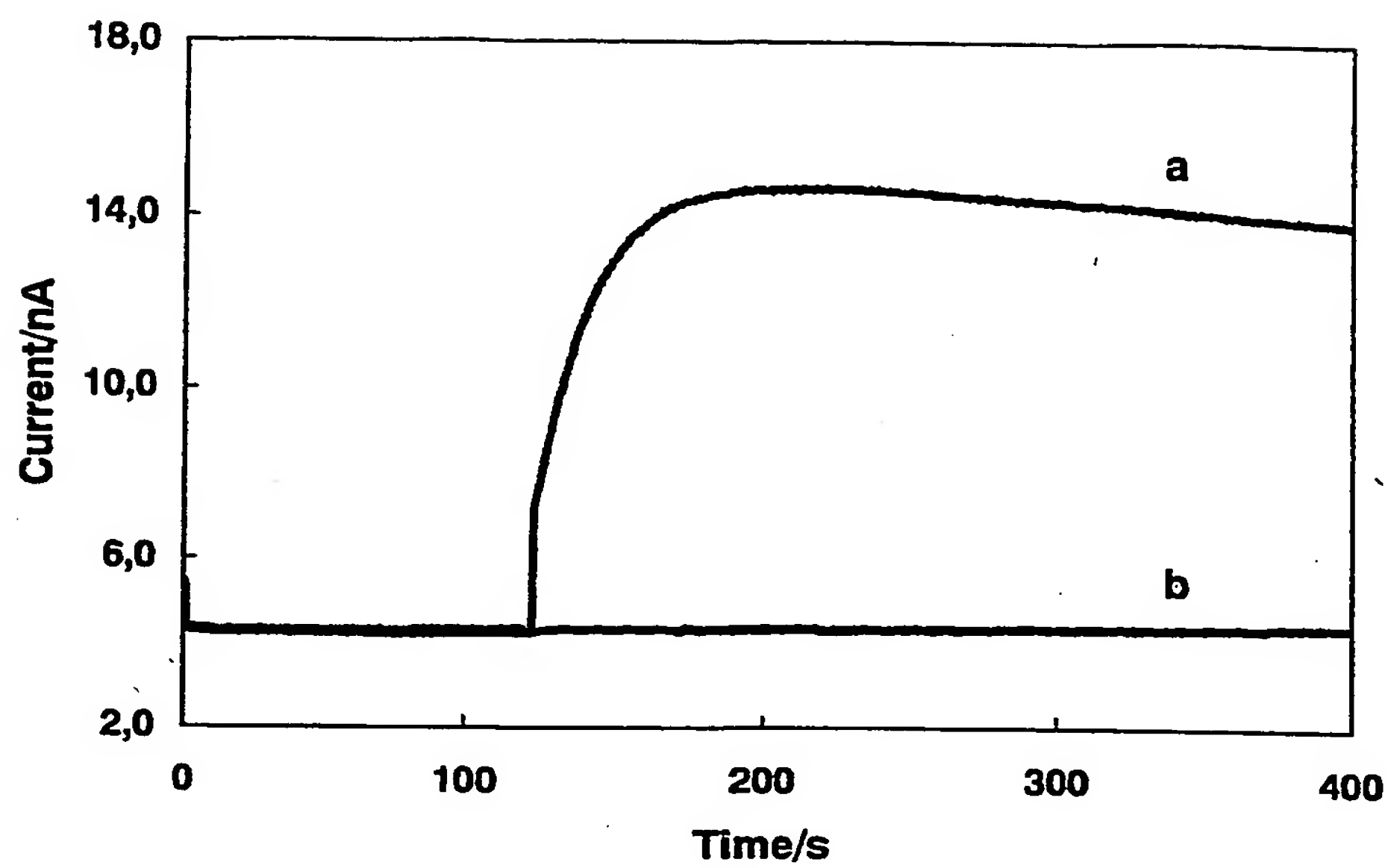
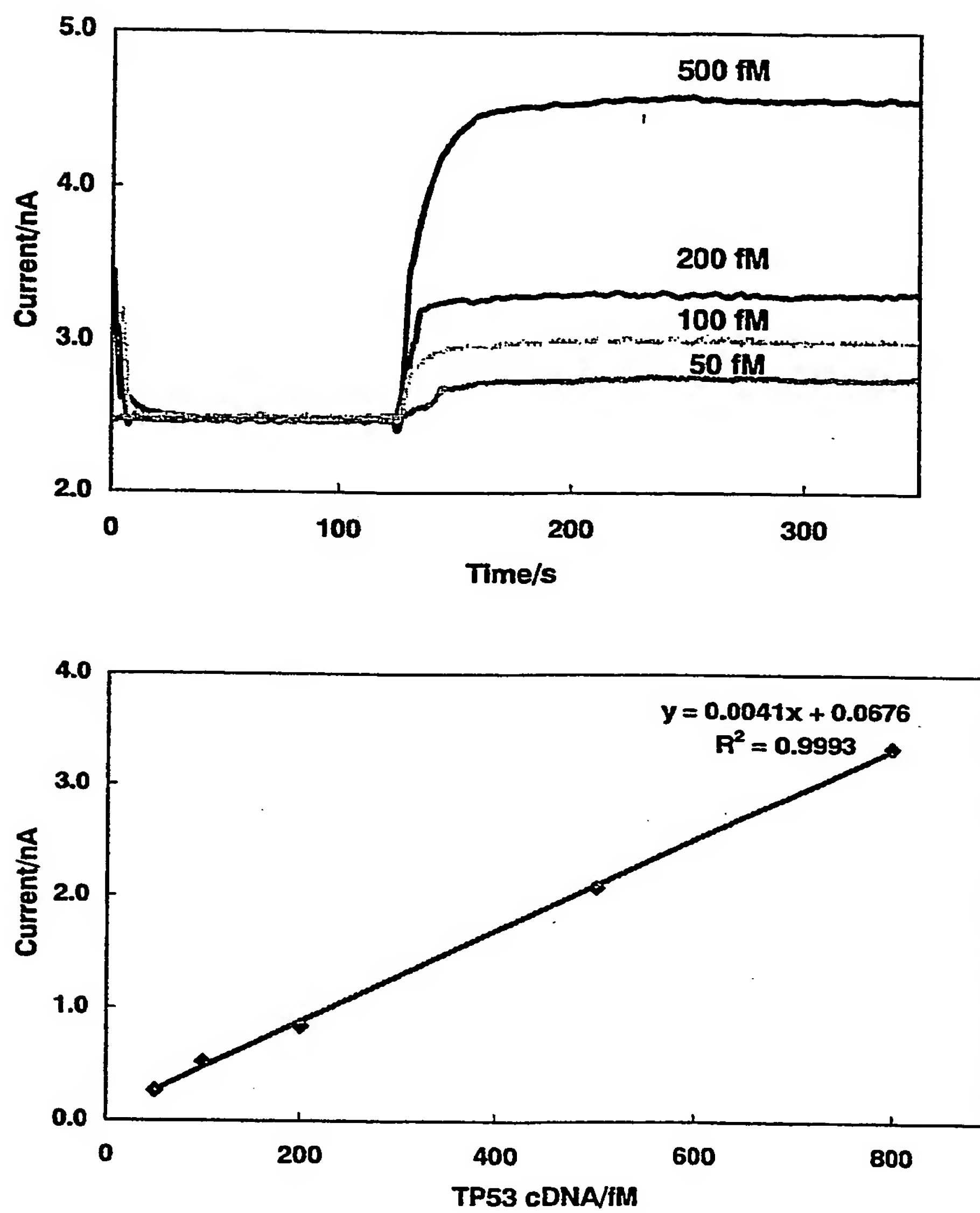
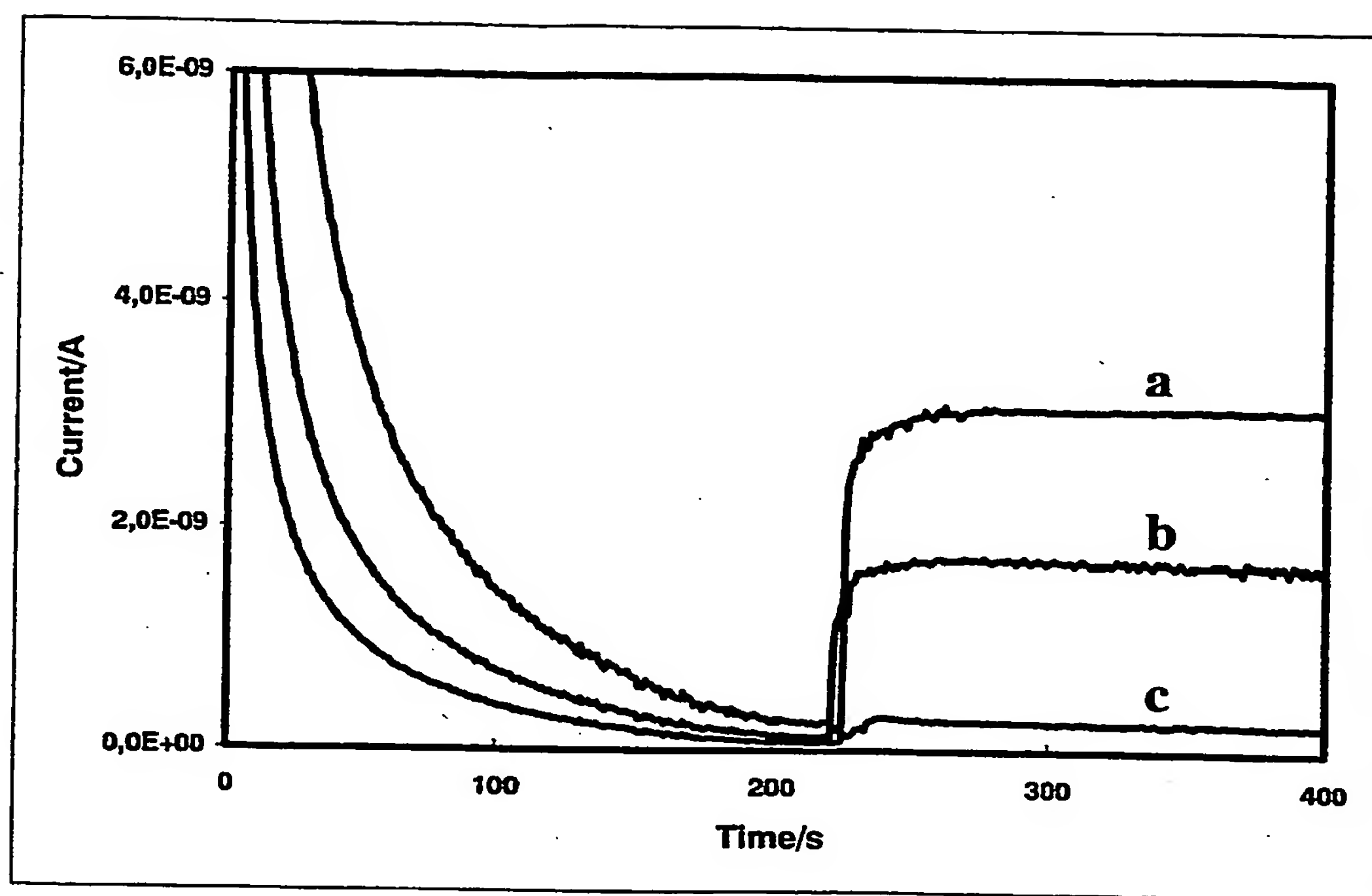
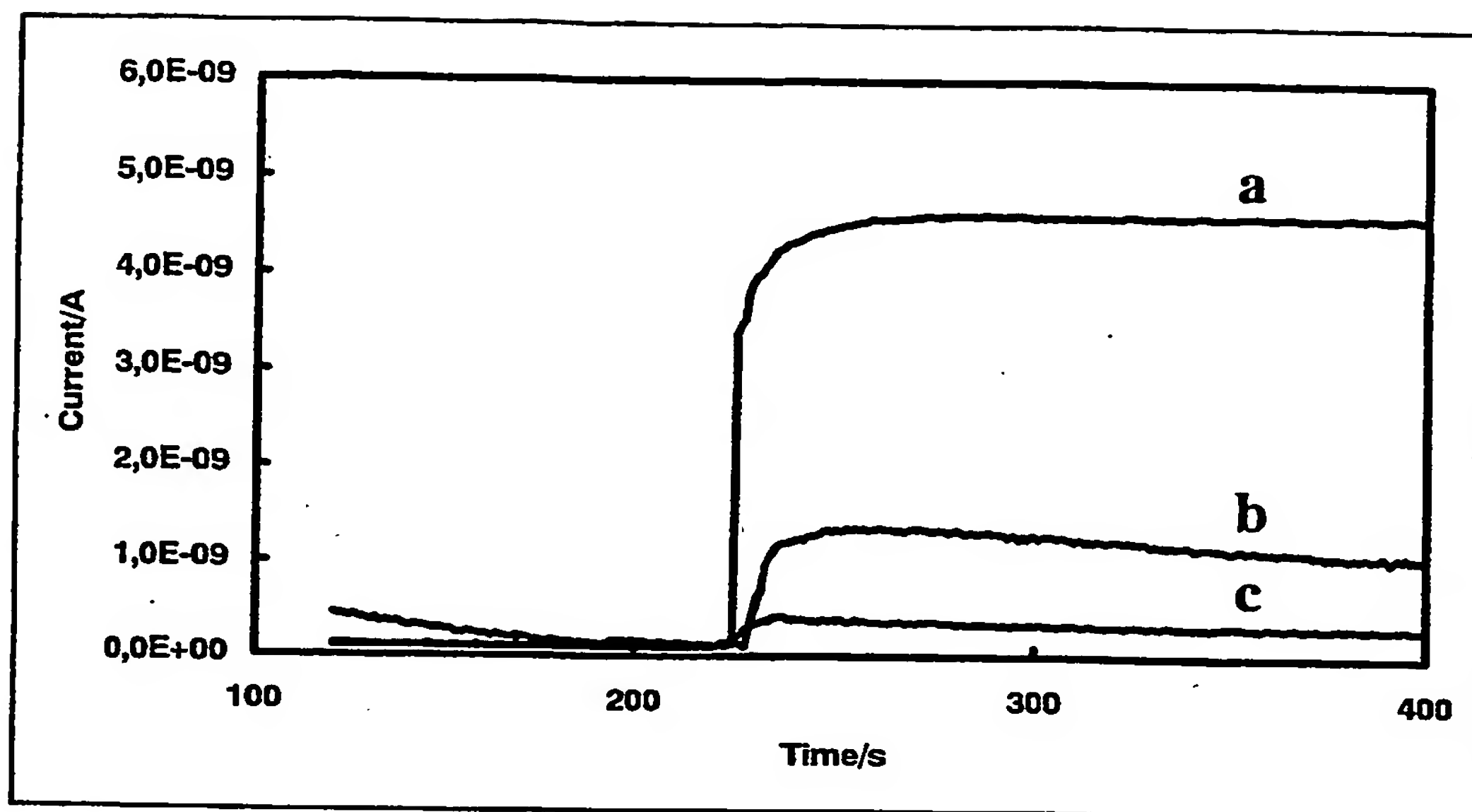


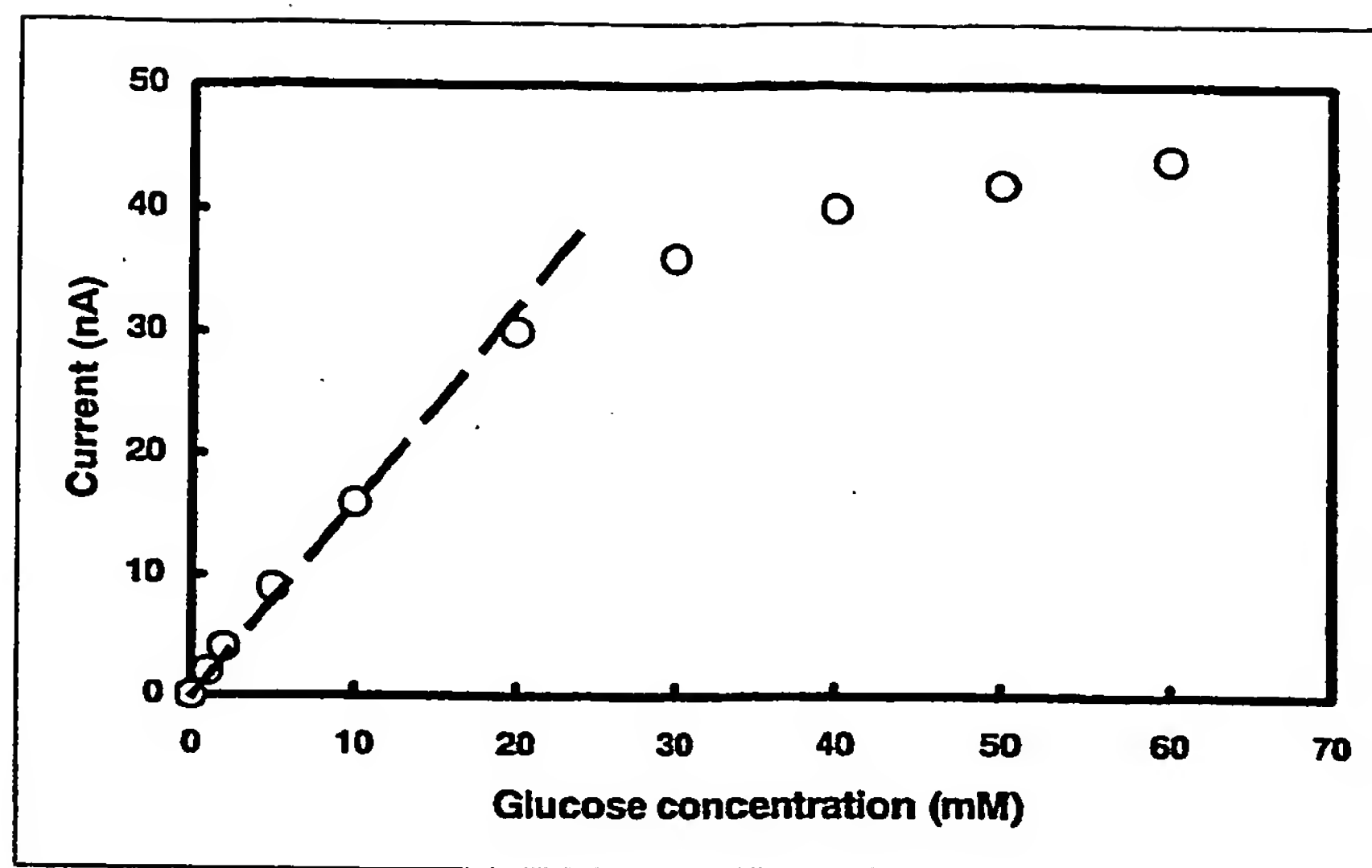
Figure 4

**Figure 5**

**FIGURE 6**

**FIGURE 7**

**FIGURE 8**

**FIGURE 9**

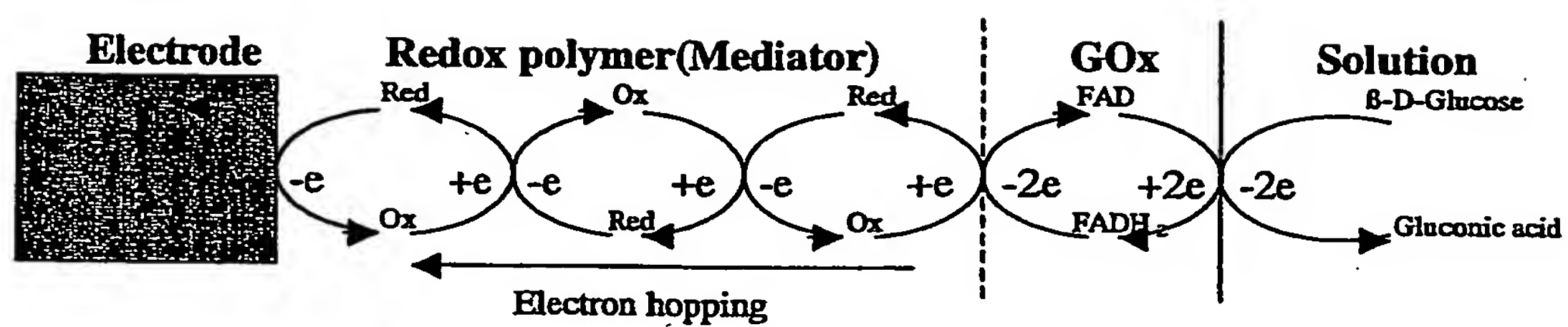
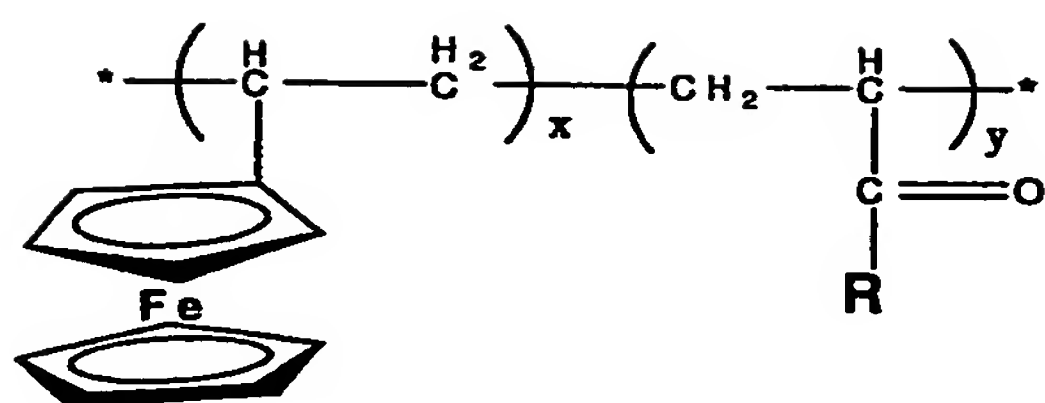


Illustration of redox polymer mediated bio-sensing process.

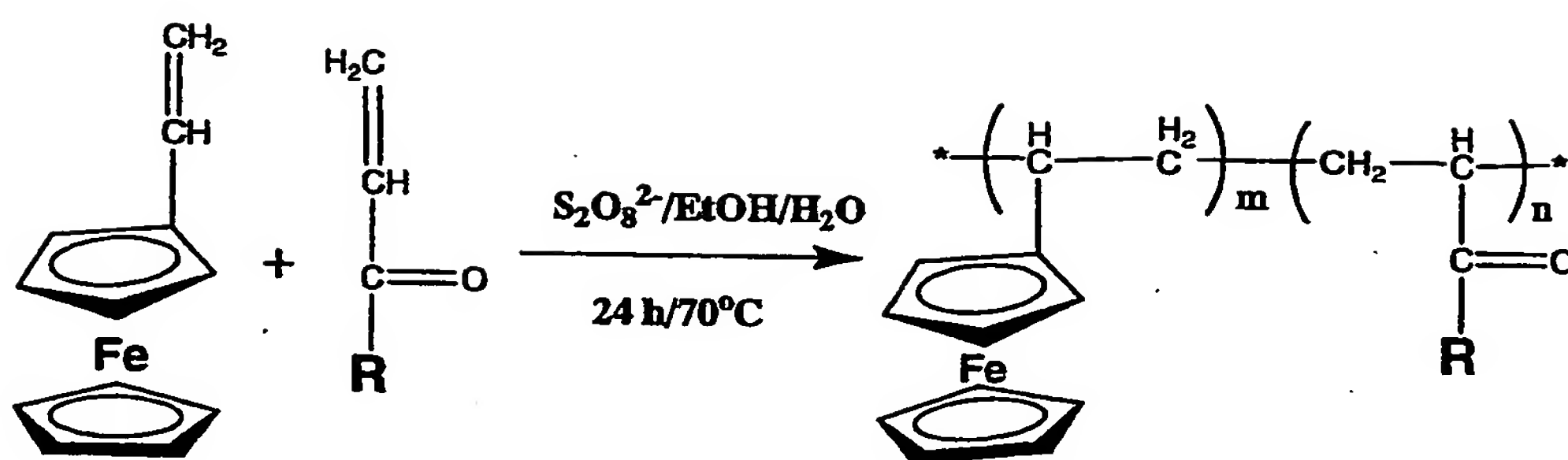
FIGURE 10



$\text{R} = \text{C}_n\text{H}_{2n}\text{-NH}_2, \text{C}_n\text{H}_{2n}\text{-COOH}, \text{NH-C}_n\text{H}_{2n}\text{-SO}_3\text{H} \text{ (n = 0 - 8)}$

Structure of water-soluble and cross-linkable ferrocenyl redox polymer.

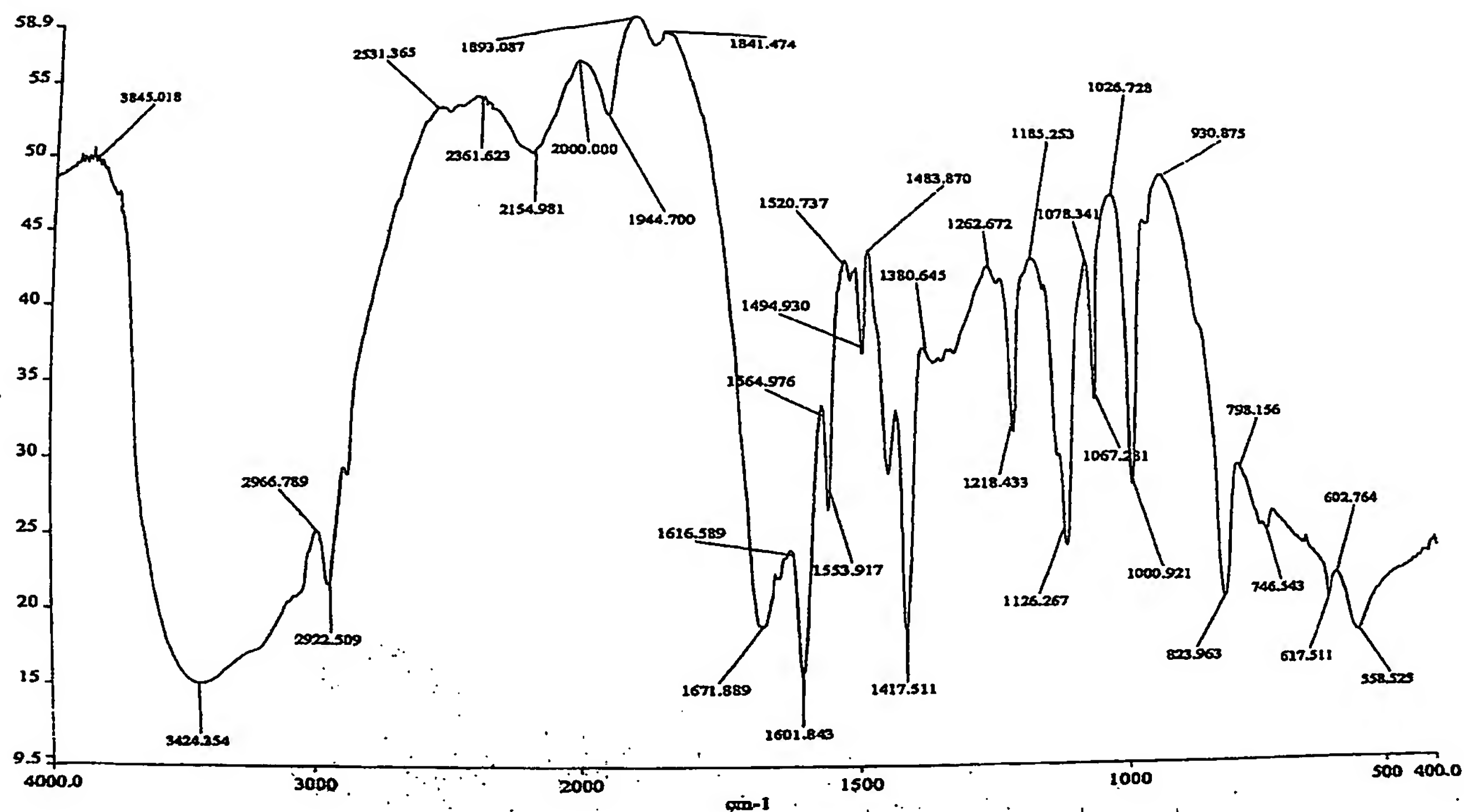
FIGURE 11



$\text{R} = \text{C}_n\text{H}_{2n}\text{-NH}_2, \text{C}_n\text{H}_{2n}\text{-COOH}, \text{NH-C}_n\text{H}_{2n}\text{-SO}_3\text{H} \text{ (} n = 0 - 8 \text{)}$

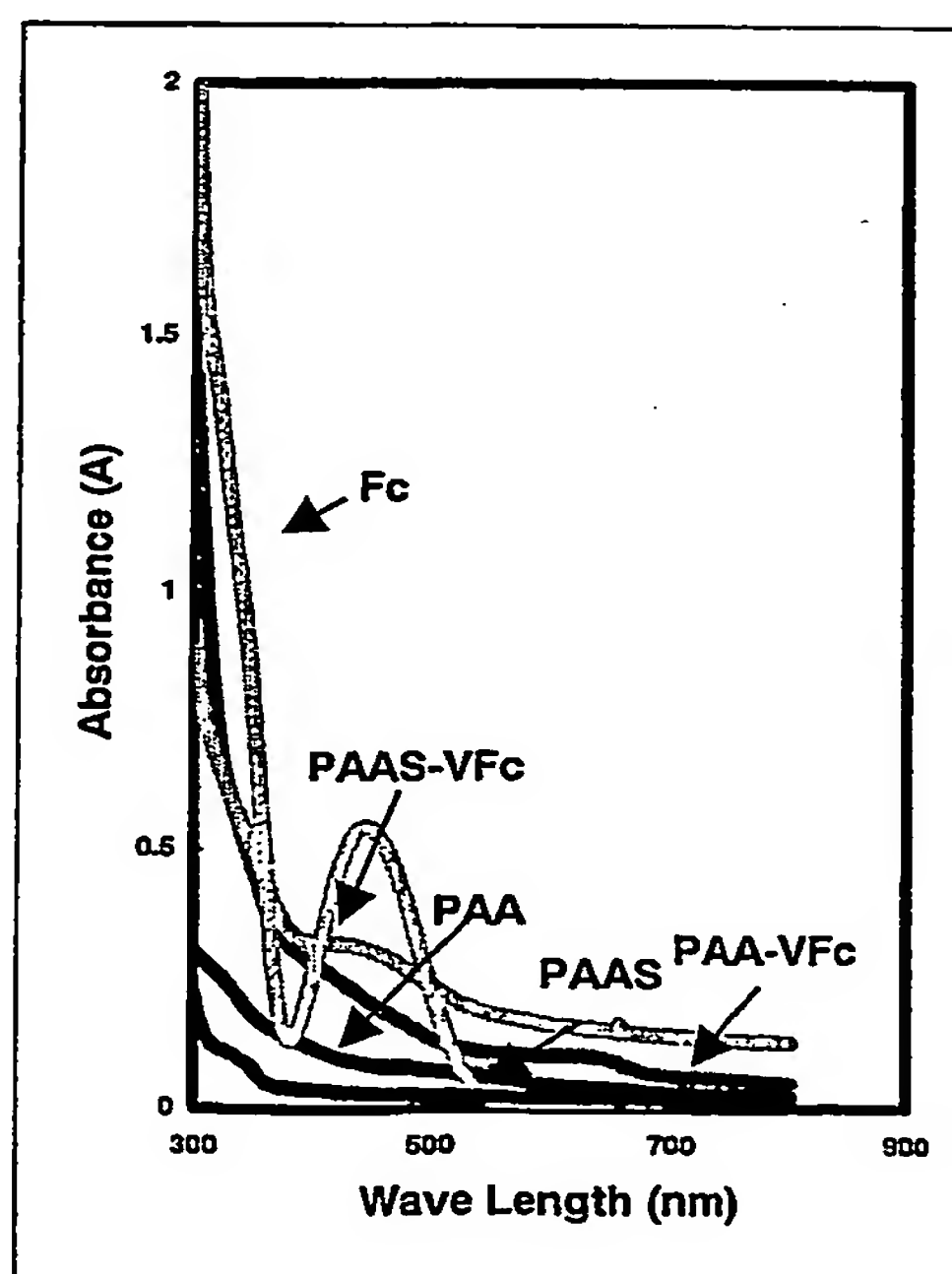
Polymerization mechanism of the redox polymer.

FIGURE 12



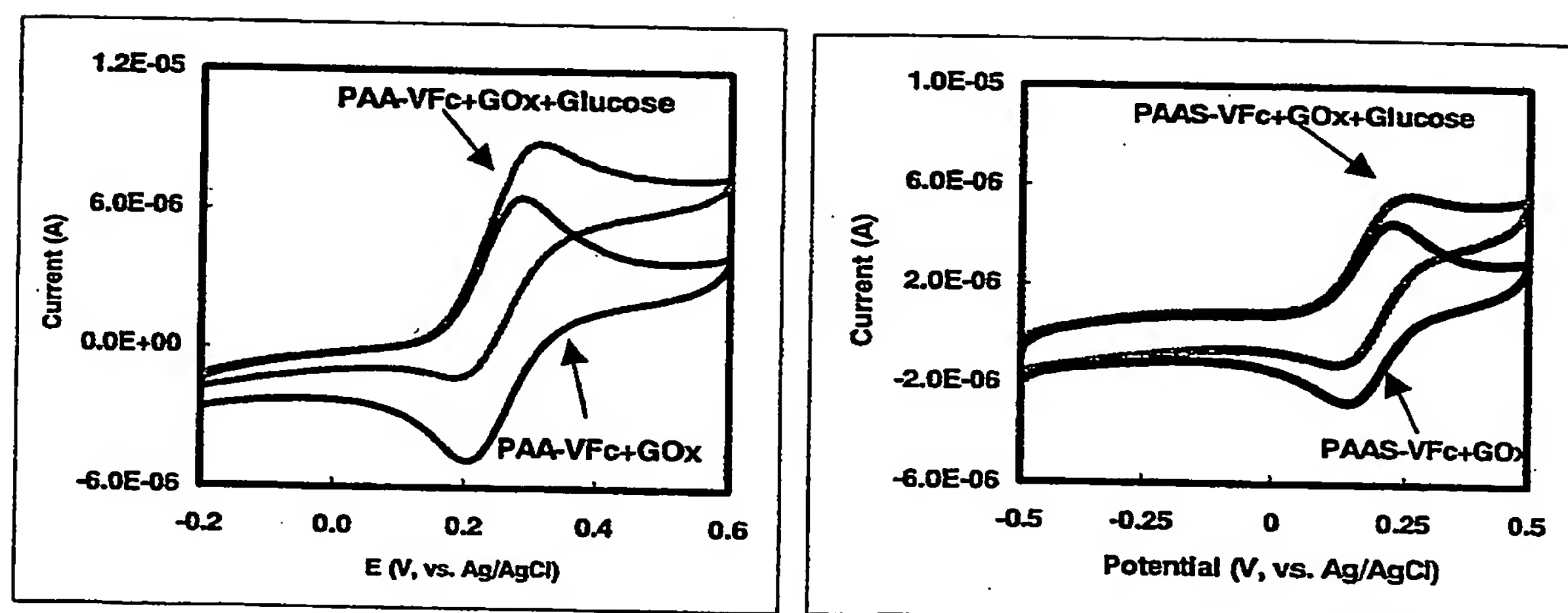
FT-IR Spectrum of PAA-VFc and PAAS-VFc redox polymer

FIGURE 13



UV-visible spectra of Fc, PAA, PAAS and their VFc co-polymers.

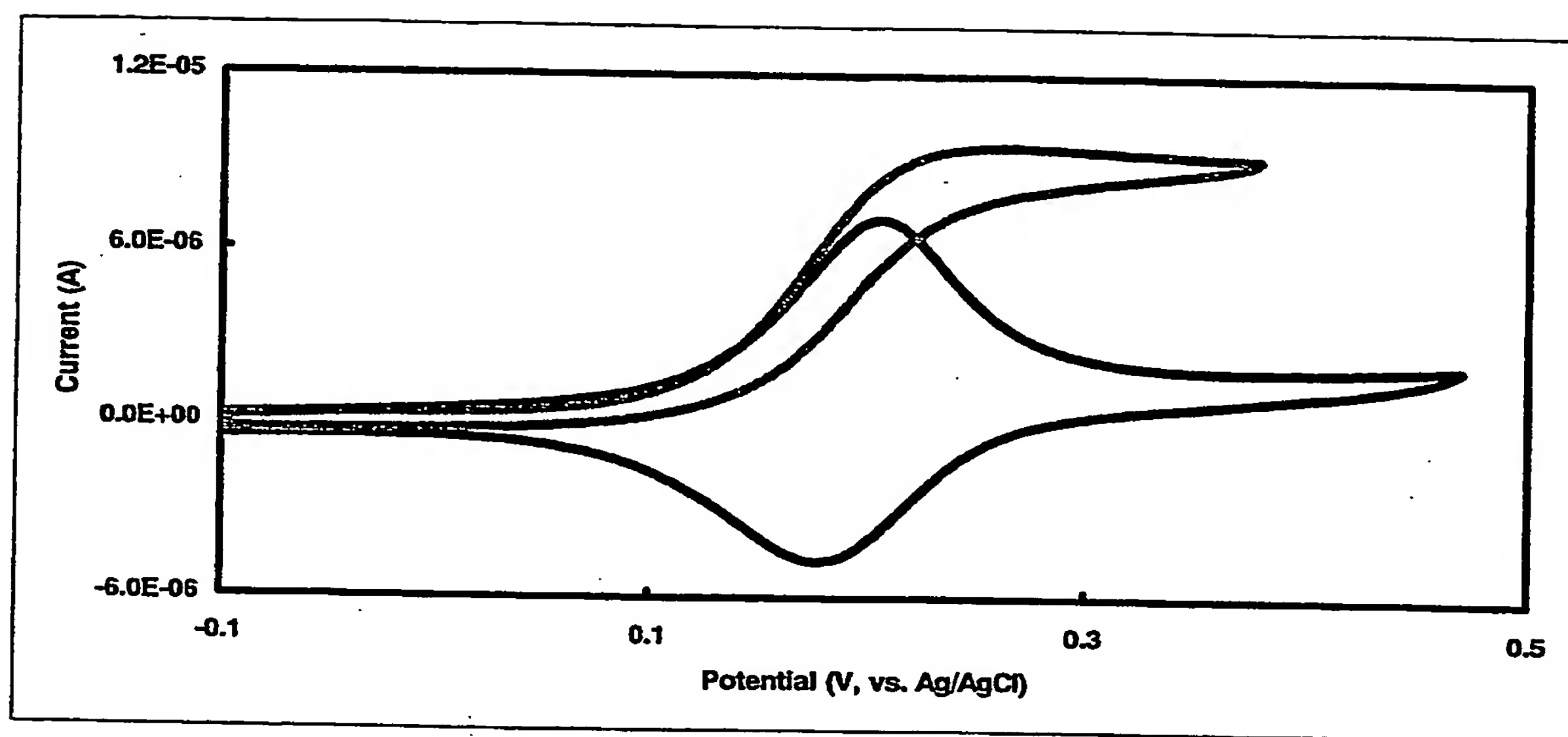
FIGURE 14



Cyclic voltammograms of redox polymers in various systems.

Phosphate-buffered saline, potential scan rate = 100 mV/s

FIGURE 15



Cyclic voltammogram of cross-linked PAA-VFc-GOx-BSA film on gold electrode.
PBS, potential scan rate 50 mV/s

FIGURE 16